EPON2

AT-TN118-A 2 Port EPON Service Module

FTTH Over Any Last Mile Infrastructure

As broadband deployments continue the gradual but inevitable migration to Fiber To The Home (FTTH), Allied Telesis is well positioned to support any FTTH infrastructure with the introduction of the EPON2 line interface module. This addition complements the existing line of active 100Mbps FTTX products available from Allied Telesis. As customer demand for IP enabled services increases, Service Providers must weigh the benefits of point-to-point versus point-to-multipoint deployments. The Allied Telesis iMAP is the only IP access platform that offers solutions for both scenarios eliminating the uncertainty of which last mile infrastructure to deploy.

Using the same approach to last mile design, the EPON2 service module is made with hardened components offering Service Providers of all kinds the added flexibility of CO or remote deployments. With standards based 1000BASE-PX20 U/D pluggable SFP optics, the EPON2 module provides optical reach of up to 20km using while supporting up to 32 subscribers per PON port. Supporting key features such as QoS, security and IP Video, the EPON2 module is a key component to any IP Triple Play deployment relying on PON last mile infrastructures.

As IPTV services continue to reach out to residential communities, Service Providers using Allied Telesis' iMAP and EPON2 solution can accommodate the most advanced communications services available today. Supporting 16:1 or 32:1 splits, the EPON2 module can support PON bandwidth up to 1Gbps bidirectional. With powerful QoS traffic management, the AT-TN118 provides minimum bandwidth guarantees and maximum bandwidth limits on a per subscriber, per service basis.

Continuing the IP Convergence over PON

In choosing EPON IEEE 802.3ah standards based technology, Allied Telesis has enabled Service Providers with the ability to offer native IP-based services over either existing or new-build PON infrastructures. One of the inherent benefits of EPON versus other PON alternatives is the ability to transport all traffic in its native IP/Ethernet format. This protocol efficiency is vital to the IP convergence of all traffic - Voice, Video and Data. Should the need arise for RF overlay, the EPON2 LIF may accommodate such deployments in the future*.

As IP convergence continues in last mile access, Allied Telesis' iMAP and EPON2 LIF are well poised to enable the transition while maintaining a cost effective point-to-multipoint optical last mile infrastructure. Since worldwide deployments of EPON have significantly outpaced other PON alternatives, Allied Telesis is able to leverage aggressive price points. When used with Allied Telesis' intelligent Multiservice Gateways (iMG), the EPON2 enables seamless delivery of IP services to residential and small business customers.

Part of a IP Broadband Access Family

Whether it is broadband ADSL2+, FTTH or POTS, the iMAP family is the ideal platform for last mile service delivery. The EPON2 line card can be used with any of the iMAP family of carrier grade, IP Multiservice Access Platforms:

- iMAP 9700 (9RU, 17 service slots)
- iMAP 9400 (3RU, 7 service slots)
- MiniMAP 9100 (1RU, 3 service slots)

Provisioning, management, and diagnostics of subscriber ports can be accomplished from either the iMAP command line interface or the NMS.

**May require external hardware not currently available.*

Key Features

- 2 PON ports
- Support for 32 subscribers per PON
- IEEE 802.3ah OAM
- SFP optics – 20km support
- Management of AT-iMG646MOD
- 192 VLANs per PON
- Extensive ACL support

QoS

- Eight queues
- Per VLAN/Service SLA
- Per subscriber SLA
- Min/max downstream/upstream BW Guarantees
- Strict/weighted priority scheduling

Security

- MAC flooding – VLAN-based
- DHCP option 82 relay/snooping
- Upstream forwarding only for all subscribers

Services Supported

- High-speed Internet
- VoIP
- IPTV
- Gaming
- Business VP

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Interface Specifications

Number of PON ports: 2
Number of subscribers per PON: 32
Backplane capacity: 2Gbps
Physical design: Front access SFP optics

EPON Standards

IEEE 802.3ah EFM TM-2004
IEEE 802.3ah EFM PON clause 64
IEEE 802.3ah OAM clause 57
IEEE 802.3ah optics clause 60

Port Specifications

Priority queues per port: 8
RMON counters
Traffic classifier support
Traffic classifier action support
User configurable per VLAN SLA

Protocols and Specifications

IEEE 802.1Q VLAN bridging
IEEE 802.1p prioritization
IETF RFC 1112 IP Multicasting/IGMP snooping v1
IETF RFC 2236 IP Multicasting/IGMP snooping v2
DHCP Relay Agent option 82 (RFC 3046)

Power Requirements

Maximum power: 25W

Environmental Specifications

Operating temp: -5°C to 55°C
Storage temp: -40°C to 75°C
Relative humidity: 5% to 95%, non-condensing

Regulatory Approvals

FCC Part 15 Class A/ANSI C63.4
EN 300 386 V1.3.1:2001-09/EN 55022:1998, Class A
VCCI Class A; ITE/ CISPR 22:1997 Class A
EN 300 386 V1.3.1:2001-09/EN 55022:1998, Class A
EN 300 386 V1.3.1:2001-09/EN 61000-4-3:1998
EN 300 386 V1.3.1:2001-09/EN 6100-4-6:1996
EN 300 386 V1.3.1:2001-09/EN 61000-4-4:1995
EN 300 386 V1.3.1:2001-09/EN 61000-4-5:1995
EN 300 386 V1.3.1:2001-09/EN 61000-4-2:1999
UL/cUL 60950: IEC60950
NEBS Level 3, GR-1089 Issue 3, GR63 Issue 2
USDA RUS

Allied Telesis' iMAP family of integrated Multiservice Access Platforms

Ordering Information

EPON2

Model	Description	Part #
EPON2	2 ports, EPON service module	AT-TN-118-A

iMAP 9x00 Chassis

Model	Description	Part #
iMAP 9700	17-slot chassis with DC power without faceplates	AT-TN-250G-B
iMAP 9400	7-slot chassis with DC power without faceplates	AT-TN-251G
MiniMAP 9101	3-slot mini chassis with DC power	AT-TN-9101-A-80
MiniMAP 9102	3-slot mini chassis with AC power	AT-TN-9102-A-xx*

iMAP Common Control

Model	Description	Part #
CFC24	24GbE switch controller card	AT-TN-401-C
GE3	3 x GbE WAN interface card	AT-TN-301-C
CFC12	12GbE switch controller card	AT-TN-408-A
CFC56	56GbE switch controller card	AT-TN-407-B
XE1	1 x 10GbE WAN interface card	AT-TN-308-A

Related iMAP Accessories

Model	Description	Part #
EPON SFP	SFP BiDi, 20km, burst	AT-SPBD20B-14
Filler	Full size service slot filler plate	AT-TN-M000-A

Related EPON CPE

Model	Description	Part #
EPON ONU	Outdoor ONU supporting Voice, Video, Data	Please see AT-iMG646MOD datasheet

*Where XX = 10 for U.S. power cord
30 for U.K. power cord
40 for Australian power cord
50 for European power cord

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